



# Oregon

Theodore R. Kulongoski, Governor

April 2, 2003

Mark Metcalf  
Ashland Inc.  
5200 Blazer Parkway  
Dublin Ohio 43107

COM file 3215  
Department of Environmental Quality  
Northwest Region Portland Office  
2020 SW 4<sup>th</sup> Avenue, Suite 400  
Portland, OR 97201-4987  
(503) 229-5263  
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Re: No Further Action Determination  
Valvoline Portland Facility  
2308 N. Clark Avenue  
Portland, Oregon  
ECSI Number 3215

Dear Mr. Metcalf:

The Department of Environmental Quality (DEQ) has completed its evaluation of the environmental investigation work performed at the Valvoline Portland property located at 2308 N Clark Avenue in Portland, Oregon. A series of investigations were performed between 1992 and 2002. The results of these investigations are summarized in the December 2002 Closure Report prepared by URS Corporation on behalf of Ashland, Inc. and the DEQ February 13, 2002 Memorandum *Proposed No Further Action Determination* which is enclosed. DEQ's review was performed in response to your request through participation in the Voluntary Cleanup Program.

Site investigations detected low concentrations of hazardous substances in site soil and groundwater in localized areas. Based on the findings summarized in the investigation and cleanup reports and the DEQ Memorandum, DEQ determined that the hazardous substances detected at the site are limited in extent and do not present an unacceptable risk to human health or the environment. As a result, no further action (NFA) is required to address hazardous substances at the facility under Oregon Environmental Cleanup Law, ORS 465.200 et seq., unless additional information becomes available which indicates further investigation is warranted. A public comment period on the cleanup was conducted from March 1 to 31, 2003, and no comments were received. We will update DEQ's Environmental Cleanup Site Information (ECSI) database to reflect DEQ's NFA determination.

Thank you for your participation in the Voluntary Cleanup Program. If you have any question, please contact me at (503) 229-5213.

Sincerely,

Anna Coates, RG  
Project Manager/Hydrogeologist  
Cleanup and Spills

Terry Hosaka  
Northwest Region Cleanup Manager

cc: Tom Gainer, DEQ  
Shawn C. Williams, URS  
Karen Rabiner, City of Portland  
Doug MacCourt, AterWynne  
Project File

Attachment - DEQ Memorandum

E:\Valvoline\NFA\Letter.doc



State of Oregon  
Department of Environmental Quality

Memorandum

To: Valvoline File (ECSI #3215) *Approved* Date: February 13, 2003  
Terry Hosaka, Manager, Cleanup and Spills  
cc: Tom Gainer, DEQ VC/PH  
Mike Poulsen, DEQ, Risk Assessment  
From: Anna Coates, Project Manager *ACC*  
Subject: Proposed No Further Action Decision  
Valvoline Portland Packaging Plant  
2308 North Clark Avenue  
Portland, Multnomah County, Oregon  
(ECSI #3215)

## 1.0. PURPOSE

This staff memo concerns the site investigation and soil cleanup at the Valvoline Portland Packaging Plant at 2308 North Clark Avenue in Portland (Figure 1). The investigation and cleanup was conducted as a voluntary cleanup action overseen by URS on behalf of Ashland, Inc. Tom Gainer (NWR VC/PH), Mike Poulsen (NWR Risk Assessor) and I reviewed the existing environmental information for the site and concluded that the investigation and cleanup was conducted in accordance with OAR 340-122-010 through -140, OAR 340-122-0510 through -0590 and ORS 465.200 through -900 (Oregon laws governing hazardous substance cleanups), and that the residual contamination does not pose an unacceptable risk to human or ecological receptors.

I request you approve the cleanup which will allow me to provide notice to the public of the Department's acceptance of the cleanup and proposal to issue a No Further Action (NFA) determination.

Ashland, Inc. entered the Valvoline project into DEQ's Environmental Cleanup Program January 8, 2002 by executing a Voluntary Cleanup Program (VCP) cost recovery agreement. This staff memo summarizes the more detailed information contained in URS's December 9, 2002 Closure Report and DEQ's administrative record.

## 2.0 SITE DESCRIPTION AND HISTORY

### 2.1 Site Description

The 0.66-acre site is in a predominately industrial area of Portland (see Figure 1). It is bounded by N. Interstate Avenue to the northeast, N. Clark Avenue to the northwest, N. Lewis Avenue to the southeast, and Union Pacific Railroad right-of-way to the southwest (see Figure 2).

The DEQ and the City of Portland (the City) entered into Prospective Purchasers Agreement No. 02-02 on January 17, 2002 before the City purchased the property from Ashland, Inc. Valvoline Company, a division of Ashland, Inc. (Ashland), operated on the property from 1931 to 2001.

Valvoline's operations at the site primarily consisted of blending new oils with additives, then packaging the blended oil mixture into containers, ranging from quarts to 55-gallon drums, for shipment. In addition, they distributed bulk motor oil via tanker trucks. The new oil arrived at the site via tanker truck and railcar. The new oil and blended oil were stored onsite in above-ground storage tanks.

Improvements included a 22,040-square foot, concrete and cement block plant building, which included a partial second floor, a partial basement, and four indoor tank farms. Also, there is a 1,680-square foot metal warehouse building that was open on one side. Tank Farm 1, an outdoor tank farm, consisted of eight aboveground storage tanks.

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A 1,500-gallon underground fuel oil storage tank was installed to the north of the property beneath N. Clark Avenue in 1931, the time of building construction. The oil was used to fuel the boiler for heating the building and to fuel a steam heat system for heating motor oil. A 1,000-gallon gasoline storage tank was installed in 1950 on the southeastern side of the property.

According to earlier historical information, the property was developed with residences and a livery/feed stable from at least 1889 to 1910. A warehouse-type building was located on the northwestern portion of the property in 1908, followed by a foundry from at least 1918 to 1923.

Because of the uncertain history and land use activities, the site was screened for a broad range of contaminants of interest:

- oil and diesel-range petroleum hydrocarbons;
- volatile organic compounds (VOCs);
- polycyclic aromatic hydrocarbons (PAHs);
- polychlorinated biphenyls (PCB); and
- RCRA 8 metals: arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver.

Contamination at the facility is expected to be from leaks and incidental releases and spills associated with onsite oil storage and transfer activities.

## **2.2 Environmental Setting**

The property slopes gently to the southwest at an elevation ranging from approximately 50 to 40 feet above mean sea level. The Willamette River is located approximately 800 feet to the southwest of the property. Soil encountered beneath the site during investigations was sandy and gravelly fill material with debris, including metal slag, broken glass burnt wood, concrete, and brick, overtop native silts, clayey silts, and silty sands. According to site boring logs, the contact between the fill and the native soil was approximately one to five feet below ground surface (bgs).

Shallow groundwater was encountered beneath the site at approximately 30 feet bgs. The direction of shallow groundwater flow is expected to be toward the Willamette River. Thin (less than 6 inches thick) laterally discontinuous zones of perched groundwater were noted during

borehole drilling. Reportedly, no staining, odor, or elevated photoionization detector readings were associated with any of the perched zones.

A site stormwater system appears to have historically discharged to the Willamette River. According to a former Valvoline Operations Manager, in the early 1980s a 300 gallon oil spill resulted in a release of 30 gallons of oil into the roof gutter and subsequently into the storm drain system. Valvoline reportedly placed absorbent booms at the outfall and absorbed the oil before it discharged into the Willamette. No other documented spills into the stormwater system were discovered during the investigation. The property is currently served by the City of Portland municipal water and sanitary sewer system. No surface water features such as tributaries to the Willamette, ponds or lagoons were historically or currently onsite.

### **2.3 Current and Reasonably Likely Future Land Use**

The MAX Light Rail System is being installed along the northeastern property boundary along North Interstate Avenue. A southwestern portion of the site paralleling the Union Pacific Railroad right-of-way has been developed as a surface street connecting North Lewis and North Clark Avenues. The older portions of the former Valvoline building were saved from demolition because of its potential historical significance. Other portions of the building were demolished and removed. Once cleanup is complete and DEQ has issued a NFA letter, the City plans to sell the undeveloped portion of the property.

The City of Portland Bureau of Planning zoning for the site area is General Industrial 1 (IG1) and Heavy Industrial/River Industrial (IHI). Residential use is not allowed under these zoning codes. The zoning designations are unlikely to change since the site is in an Industrial sanctuary according to the City's Master Plan. Completion of the MAX line is not expected to change the zoning in the site area according to the City of Portland Office of Planning and Development.

### **2.4 Current and Reasonably Likely Future Groundwater Use**

A search of the Oregon Water Resources Department (WRD) Groundwater Resource Information Distribution (GRID) System was conducted for the area within one half mile of the facility. Well logs for Section 27 T1N R1E were targeted. Of 194 logs on file, 191 were logs of monitoring wells or geotechnical borings. Three other wells were identified, one 1985 NW Natural Gas test boring that was not completed as a well, a 1952 irrigation well, and a 1958 6-inch diameter well of unknown use. No drinking water supply wells within one half mile of the facility were identified. No industrial water supply wells were identified. The subject site and surrounding properties are supplied with drinking water by the City of Portland Water District.

Shallow groundwater is not currently and is not reasonably likely to be used in the future as a water supply:

1. There is no documented groundwater use within one-half mile of the facility,
2. City of Portland municipal water is readily available, and
3. Current and planned future land use is industrial.

In addition, shallow groundwater is expected to be hydraulically connected to the Willamette River. According to Mike McCord, Multnomah County Watermaster, installation of wells screened in the shallow aquifer is prohibited within 1/4 mile of the Willamette River if the aquifer

is hydraulically connected to the river. The shallow aquifer is expected to flow toward and contribute to recharge of the Willamette River.

### 3.0 SITE INVESTIGATION/CLEANUP SUMMARY

#### 3.1 Site Characterization

Three phases of initial site characterization were conducted at the site, including two field investigations and a phase 1 assessment:

##### Delta Investigation

In August 1992, seven borings and one groundwater monitoring well were completed by Delta Environmental Consultants, Inc. (Delta) to evaluate the extent of petroleum hydrocarbons in soil and groundwater. Soil samples were collected from each of the borings. Delta tested the samples for total petroleum hydrocarbons by Oregon Method TPH 418:1. They installed one monitoring well to a depth of 30 ft below ground surface; too shallow to yield sufficient groundwater for sampling. Petroleum hydrocarbons were detected at concentrations up to 120,000 ppm in soil at Tank Farm No. 3. Petroleum hydrocarbons were detected in several other borings beneath the building and in the vicinity of the railroad right-of-way. Delta concluded that the petroleum hydrocarbons had primarily impacted the soil in the area of Tank Farm No. 3.

##### Hahn and Associates Investigation

In August 2001 Hahn and Associates, Inc. performed a phase 1 site assessment of the site in accordance with the American Society for Testing and Materials Practice E1527-001. On the basis of the findings, their recommendations included additional soil and groundwater characterization, an underground storage tank investigation, and a utilities investigation.

##### URS Investigation

In October 2001 URS Corporation (URS) completed nine temporary direct push borings and one hand auger boring. URS collected soil samples from each boring and groundwater samples from eight of the borings. Samples were tested for diesel and oil range petroleum hydrocarbons (NWTPH-Dx), PAHs (USEPA 8270-SIM), PCBs (USEPA 8082), and metals (USEPA 6010/7471).

In general, the site investigation showed:

- petroleum hydrocarbons in soil near the former location of the tanks;
- arsenic in soil at concentrations above risk-based screening values;
- low concentrations of VOCs in soil and groundwater;
- low concentrations of PAHs in soil and groundwater;
- low concentration of total and dissolved metals in groundwater; and
- no BTEX or PCBs in soil or groundwater.

VOCs in Soil. VOCs were detected in one soil sample (VGP-5 @27-31.5ft bgs) collected during the geoprobe investigation. Compounds detected were 1,2,3-Trichlorobenzene (11 ug/L), 1,2,3-Trichlorobenzene (5.4 ug/L), and Naphthalene (18ug/L). All are petroleum related compounds and were well below the RBCs for petroleum sites.

VOCs in Groundwater. VOCs were detected in three groundwater samples collected during the geoprobe investigation. Tetrachloroethene (1.42, 4.89, and 5.11 ug/L), 1,1,1,-Trichloroethane (2.28 ug/L), and trichlorofluoromethane (2.80 ug/L) were detected. Tetrachloroethene slightly exceeds the RBC for tap water ingestion (0.66ug/L).

PAHs in Soil and Groundwater. A variety of PAHs were detected in site soil samples (see Tables), however, concentrations were below RBCs. Pyrene (0.11 ug/L) was the only PAH detected in groundwater samples, at a concentration well below the RBCs for tap water ingestion (180 ug/L).

Metals in Groundwater. Total concentrations of arsenic, barium, cadmium, chromium, and lead exceeded drinking water standards. However, dissolved metals were not detected or were detected at concentrations below RBCs.

### **3.2 Monitoring Well Decommissioning**

In Spring 2002, URS decommissioned the site monitoring well that was installed in 1972 as part of Delta's investigation. The well was historically dry and was never successfully sampled. URS overdrilled and pressure grouted the well in accordance with Oregon Water Resources decommissioning rules (OAR 690-240).

### **3.3 Underground Storage Tanks**

The 1,000-gallon gasoline storage tank, installed in 1950, was removed from the southeastern side of the property beneath the sidewalk adjacent to N. Lewis Avenue in 1989. A temporary boring was advanced in the former area of the tank as part of the URS investigation (URS, 2001). Soil samples were collected and tested for petroleum hydrocarbons and metals by the methods described above. No gasoline, diesel or oil was detected in the samples. Lead was detected at a concentration of 6.86 mg/kg, below applicable PRGs.

The 1,500-gallon underground fuel oil storage tank beneath N. Clark Avenue may still be in place. Ashland will decommission the tank under DEQ's Heating Oil Tank program.

### **3.4 Railroad Bed Investigation**

The railroad was the site of loading and unloading of oil from tankcars through pipelines that extended from the building to the tankcars. Site records indicate that spills had resulted in petroleum staining on the railroad ballast, and potentially contaminated soil beneath the ballast. Stained ballast was previously removed and replaced with clean ballast.

URS collected and tested soil samples from along the building exterior adjacent to the railroad to determine if contamination remained. A backhoe was used to collect soil samples at six locations. Samples from 0 to 2 and at 4 feet bgs were collected from each location and selected samples were tested for TPH by NWTPH-Dx. Oil range petroleum hydrocarbons were detected in soils at concentrations of from 136 to 547 mg/kg. The two samples with the highest oil concentrations were also tested for VOCs by USEPA Method 8260B. No VOCs were detected.

### **3.5 Removal Action Measures**

In accordance with the agreement between Ashland and the City, on August 6 and 7, 2002 URS removed petroleum contaminated soil in the vicinity of the historic Tank Farm Number 3. Soil was excavated to depths of 3 to 10 feet below ground surface, depending on the extent of contamination encountered. The excavation was stopped at approximately 10 feet bgs to prevent undermining of the former Valvoline building to the north and an adjacent parking lot to the east.

Seven floor and seven wall confirmation samples were collected from the excavation. Samples were first tested for TPH (NWTPH-Dx). Of the fourteen samples tested, six samples had detectible concentrations of NWTPH-Dx (see Figure 3). The soil sample with the highest oil concentration was collected from the northern wall, where excavation was stopped to prevent undermining of the building. Oil was detected at a concentration of 12,960 mg/kg.

The samples with Dx detections were sampled for VOCs (EPA 8260B), PAHs (EPA 8270-SIM), and Metals including arsenic, barium, chromium, and lead (EPA 6010). No VOCs or PAHs were detected. Metals concentrations were below USEPA Region 9 Preliminary Remediation Goals (PRGs) except for arsenic. Arsenic concentrations ranged from 7.6 to 13.3 mg/kg, similar to concentrations previously noted in site soils.

### 3.6 Fill Soil Testing

On August 6, 2002 URS tested soil previously stockpiled on site. The stockpiled soil was excavated during the road construction along the railroad bed. Six samples of the stockpiled soil were tested for TPH-Dx and those with the highest detections were tested for VOCs, PAHs, and metals. Oil was detected in each of the samples at concentrations of 897 to 3,480 mg/kg. No VOCs were detected. Low concentrations of PAHs were detected in three of the six samples at concentrations below PRGs. Arsenic concentrations ranged from 10.2 to 12.5 mg/kg, similar to concentrations previously detected in site soils.

## 4.0 RISK SCREENING

### 4.1 Human Health Evaluation

The potential risk to human health presented by low levels PAHs and VOCs in soil and VOCs in shallow groundwater were evaluated by comparing the DEQ occupational risk-based concentrations (RBCs). The screening process involved identifying specific compounds for which concentrations exceeded the RBCs for a specific exposure pathway and receptor scenario.

#### Soil

- Arsenic. Arsenic concentrations in site soils exceed industrial PRGs for dermal contact (9.6 mg/kg), ingestion (1.9 mg/kg), and combined industrial exposure routes (1.6 mg/kg). Arsenic was detected at concentrations above the PRGs in all soil samples tested. Fill and native soil samples had a similar range of concentrations. The 90<sup>th</sup> percentile upper confidence level for the 20 samples collected and tested is 9.6 mg/kg. Mike Poulsen calculated an excess lifetime cancer risk of  $5 \times 10^{-6}$  for occupational exposure and an excess lifetime cancer risk of  $1 \times 10^{-6}$  for construction exposure. The calculated risk to construction workers from exposure does not exceed the DEQ limit of  $1 \times 10^{-6}$  and is therefore acceptable. The excess cancer risk for occupational exposure slightly exceeds the DEQ limit. However, the concentrations appear to be background for the site and not due to site activities.



- Volatilization to Outdoor Air. Concentrations of volatiles in soil are well below all RBCs for this pathway.
- Vapor Intrusion into Buildings. Concentrations of volatiles in soil are well below all RBCs for this pathway.
- Leaching to Groundwater. This pathway is not complete and not applicable because the shallow aquifer is at a depth of 30 feet bgs, and is not reasonably likely to be used as a water supply due to site zoning and the availability of municipal water.

#### Groundwater

- Ingestion from drinking. Tetrachloroethene (PCE), at a maximum concentration of 5.11 ug/L, exceeded the PRG for tap water of 1.1 ug/L. This pathway, however, is not complete and not applicable because the shallow aquifer is not reasonably likely to be used as a water supply due site zoning and the availability of municipal water.
- Inhalation of volatiles. This pathway is not complete and not applicable because the shallow aquifer is at a depth of 30 feet bgs, and is not reasonably likely to be used as a water supply due to site zoning and the availability of municipal water.

#### **4.2 Ecological Evaluation**

A Level 1 Scoping Ecological Risk Assessment was performed by URS in accordance with DEQ's *Guidance for Ecological Risk Assessment* (1998). No threatened or endangered species were identified during an October 2002 site walk. The results of the assessment indicate the conditions at the site do not present a risk or threat to ecologically important species or habitat.

#### **5.0 RECOMMENDATIONS**

The release of hazardous substances at the Valvoline Portland site has been adequately investigated and cleaned up. The residual contamination does not pose an unacceptable risk to human health or the environment. No further action should be required for site.

I recommend you approve the cleanup which will allow me to provide notice to the public of the Department's acceptance of the cleanup and proposal to issue a No Further Action determination. Unless significant comments are received during the comment period, I will prepare a NFA letter for your signature.

#### **6.0 ADMINISTRATIVE RECORD**

The following documents were reviewed by DEQ and include the administrative record for this site:

Hahn and Associates, Inc., 2001. A Phase I Environmental Site Assessment, the Valvoline Company, 2308 N. Clark Avenue, Portland, Oregon. August 20, 2001.

URS Corporation, 2002. Closure Report, Valvoline – Former Portland Packaging Plant, prepared for Ashland, Inc. December 2002.

URS Corporation, 2001. Final Report, Focused Phase II Environmental Site Assessment, 2308 N Clark Avenue, Portland, Oregon, prepared for Ashland, Inc. October 15, 2001.

Delta Environmental Consultants, Inc., 1992. Site Investigation, Valvoline, Inc. Packaging Plant, 2308 North Clark Street, Portland, Oregon. September 15, 1992.

URS Corporation, 2002. "Re: Letter of Response, Former Valvoline Portland Packaging Plant, 2308 North Clark Avenue, Portland, Oregon." April 19, 2002.

URS Corporation, 2002. "Re: Letter of Response, Valvoline Portland Packaging Plant, 2308 N Clark Avenue, Portland, Oregon." February 22, 2002.

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URS Corporation, 2002. "Re: Analytical Results – Excavation, Former Valvoline Portland Packaging Plant, 2308 N Clark Avenue, Portland, Oregon." September 5, 2002.

URS Corporation, 2002. "Re: Analytical Results – Fill Soil, Former Valvoline Portland Packaging Plant, 2308 N Clark Avenue, Portland, Oregon." September 5, 2002.

URS Corporation, 2002. Valvoline – Former Portland Packaging Plant, Excavation Work Plan, prepared for Ashland Inc. February 2002.

URS Corporation, 2002. Valvoline – Former Portland Packaging Plant, Excavation Work Plan, prepared for Ashland Inc. May 2002.

URS Corporation, 2002. Valvoline – Former Portland Packaging Plant, Excavation Work Plan, prepared for Ashland Inc. July 2002.

Department of Environmental Quality, 1999. Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites. Dated September 29, 1999.

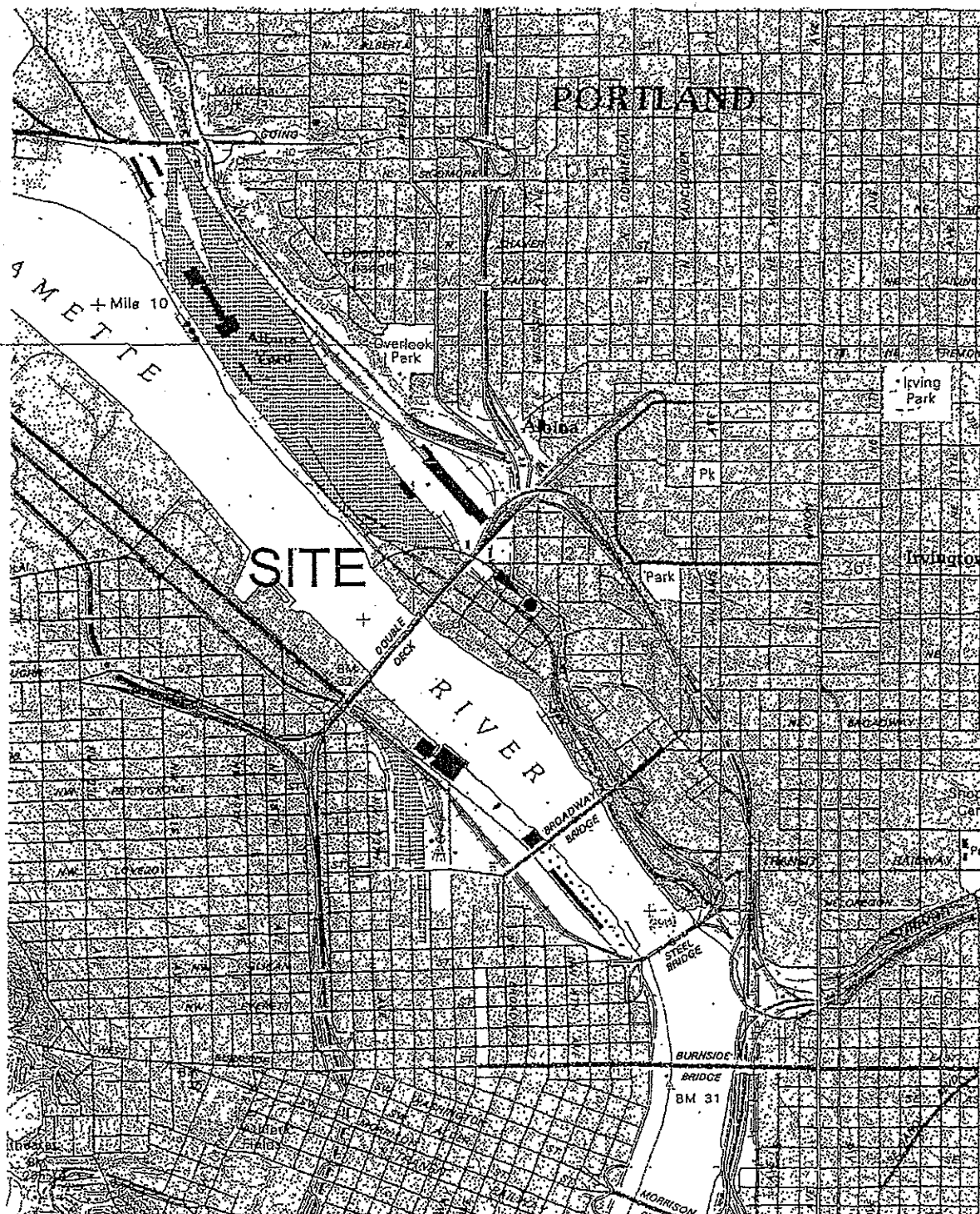
United States Environmental Protection Agency Region IX, 2002. "Subject: Region 9 PRGs Table 2000 Update, From: Stanford J. Smucker, Ph.D., Regional Toxicologist, Technical Support Group. To: PRG Table Users." October 2002.

Oregon Department of Environmental Quality, 2001. Guidance for Ecological Risk Assessment Level II Screening Level Values DRAFT. November 2001.

**Attachments:**

Figure 1: Site Location Map

Figure 2: Site Plan



SOURCE: Portland, Oregon USGS Topographic Quadrangle 1990.

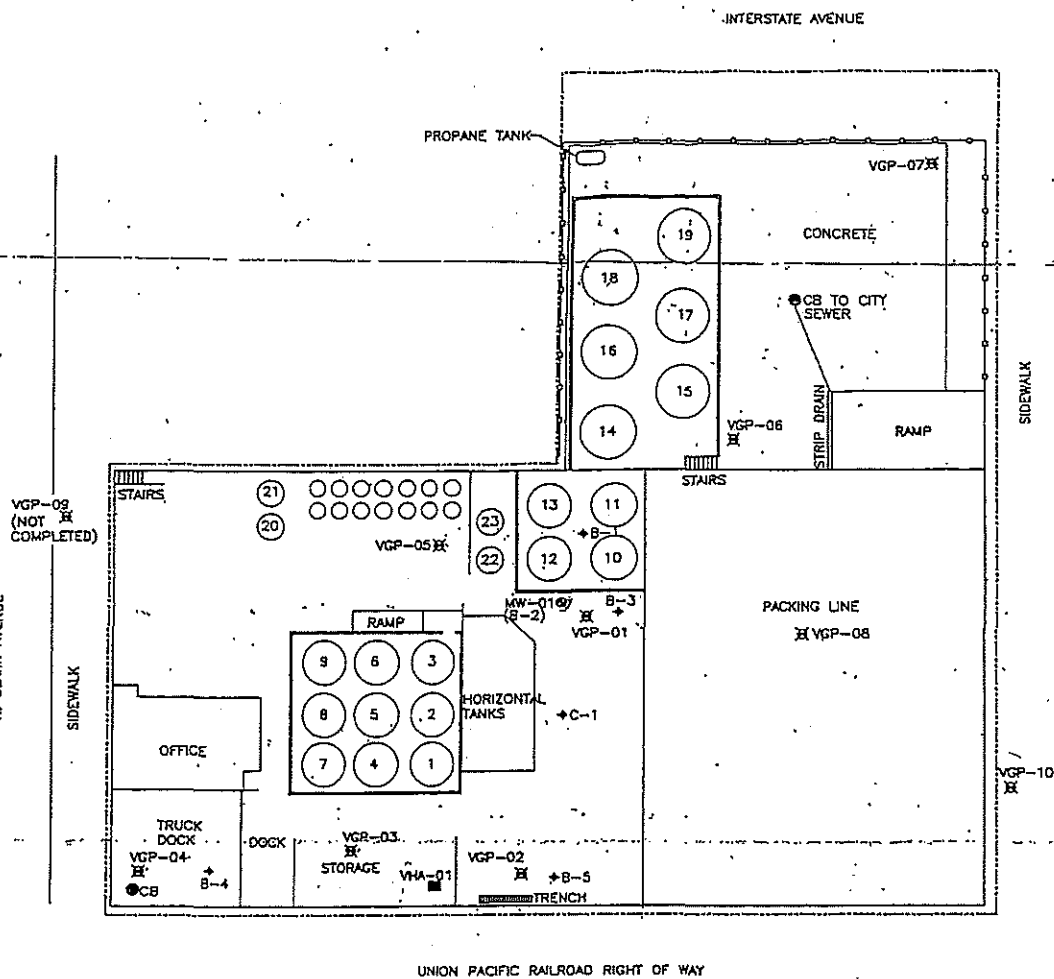
#### VICINITY MAP

10/15/01  
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Valvoline Packing Plant  
Portland, Oregon

FIGURE 1

**URS**



#### EXPLANATION

- PROPERTY LINE
- FENCE
- CB CATCH BASIN
- MW-01 MONITORING WELL (INSTALLED PREVIOUSLY)
- +B-3 PREVIOUS SOIL BORINGS
- ⊗ VGP-01 GEOPROBE BORING
- VHA-01 HAND AUGER BORING



SCALE IN FEET

SITE PLAN- APPROXIMATE BORING LOCATIONS

**URS**

10/15/01  
52-00180085.00

Vajvoline Packing Plant  
Portland, OR

FIGURE 2